ABSTRACT

The present invention relates to a real/complex dual combination channel equalizer, the real/complex dual combination channel equalizer in accordance with the present invention comprises a channel select unit for outputting selectively real data and imaginary data transmitted from a transmission terminal, a coefficient operation unit for outputting a real filter output value and an imaginary filter output value by multiplying each real or imaginary data outputted from the channel select unit to a tap coefficients, a tap coefficient renewal unit for renewing the tap coefficients, a feed-forward filter output unit for removing precedence interference noise from a signal outputted from the coefficient operation unit, a subtracter for subtracting data outputted from a real decision orientation filter unit from data outputted from the feed-forward filter output unit, a real slicer unit for generating real decision data and a real error by data outputted from the subtracter, a complex real slicer unit for generating complex real decision data and a real error by data outputted from the subtracter, a real decision orientation filter unit for generating a successor interference signal by being inputted the data and error outputted from the real slicer unit and complex real slicer unit, and a complex imaginary slicer unit for generating complex imaginary decision data and an imaginary error according to a signal outputted from the coefficient operation unit. Accordingly, the present invention is capable of minimizing the complexity of the channel equalizer while maintaining the performance of the each mode by control-outputting data corresponding to the real and complex mode by the multiplexer of the channel select unit.